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ABSTRACT

A study examined the perceptions of college students regarding 10 contraceptive methods, including the condom, douche, oral contraceptive, withdrawal, diaphragm, female sterilization, spermicidal foam, rhythm, male sterilization, and intrauterine device. A total of 285 females and 316 males responded to a questionnaire which had students rank each method in terms of positive and negative attributes. The form of contraception most acceptable to males and females was the oral contraceptive. The five choices most acceptable to males all required females to assume principal contraceptive responsibiliy. The second most acceptable method to females was male sterilization. Neither sex found condoms to be particularly acceptable. It is concluded that the semantic differential scaling method used for this survey may be useful for assessing contraceptive acceptibility in high fertility groups, for identifying misconceptions about various birth control methods, and for developing appropriate educational goals and objectives with respect to contraception. (Author/CB)

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GENDER DIFFERENCES IN PERCEPTION OF CONTRACEPTION ALTERNATIVES BY NEVER-MARRIED COLLEGE STUDENTS

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GENDER DIFFERENCES IN PERCEPTION OF CONTRACEPTION ALTERNATIVES BY NEVER-MARRIED COLLEGE STUDENTS

ABSTRACT

The purpose of this study was to examine the perceived attributes of ten contraception methods by never-married college students. Specific contraception alternatives included: condom, douche, oral contraceptive, withdrawal, diaphragm, female sterilization, spermicidal foam, rhythm, male sterilization, and IUD. Subjects drawn from general university studies courses comprised the sample for this investigation. Subjects were administered a questionnaire consisting of 40 semantic differential (bipolar adjectival) scales describing attributes of contraception methods, and scored from 1 (positive) to 7 (negative). In all, usable responses were obtained from 285 females and 316 males, representing 97% of the original sample. Arithmetical means (evaluative indices) of the 40 scales were calculated for each method, as were overall means (acceptability indices) for each contraception alternative. Results showed that the form of contraception most acceptable to both males and females was the oral contraceptive. The five choices rated most acceptable to males all required the female to assume principal contraceptive responsibility. The second most acceptable method to females was "male sterilization," suggesting a rebellion to having the primary responsibility for contraception focused on them. Neither sex found condoms to be particularly acceptable, ranking them 7th overall. A principal components analysis with varimax rotation identified dimensions of evaluation that were gender specific. Knowledge concerning evaluative dimensions allows one to address educational and counseling messages that are gender specific. Data from this study implied subtle evaluative dimension differences between the sexes on methods of contraception, possibly influencing eventual choice of method. Semantic differential scaling may be a useful method for assessing contraceptive acceptability in high fertility groups, for identifying misconceptions about the attributes of various birth control methods, and for developing appropriate educational goals and objectives with respect to contraception in the future.

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GENDER DIFFERENCES IN PERCEPTION OF CONTRACEPTION ALTERNATIVES BY NEVER-MARRIED COLLEGE STUDENTS

Introduction

Perceived attributes associated with various contraception methods may influence one's eventual choice of method (Kee & Darroch, 1981). Jaccard and Davidson (1972) report that attitudes held by female college freshmen about the oral contraceptive may predict intention to use the pill. Polgar and Marshall (1976) indicate that unclear perceptions about the severity of the Lippe IUD's side effects by biomedical scientists and women in India resulted in rejection of the method in that country. Caldwell, Young, Ware, et al. (1973) identified a "hierarchy of naturalness" among Australian women that seemed to contribute to contraceptive choice. Kee and Darroch (1981) described a related phenomenon in the reluctance of Japanese to use the oral contraceptive, because of a traditional cultural perception that pill use was "unnatural" and associated with "illness behavior." Whelan (1974) concluded that some people's attitudes made them unsuitable to use certain birth control methods. Zelnik and Kantner (1978) compared sexual activity data for teenagers in the United States over a five-year period, and cited increases in the prevalence of sexual activity, and the proportion of sexually experienced teenagers who had never used

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contraception. These same investigators suggested that more and better information about birth control methods was warranted. Werner (1977) cautioned researchers against any tendency to address less attention to attitudinal factors relating to family planning behaviors, and advocated a need for an enhanced understanding of the relationship between family planning attitudes and practices. Herold and Goodwin (1980) used semantic differential scaling to assess females' perceptions of effectiveness, safety, and anxiety related to oral contraceptive use. They showed that one's perception of "effectiveness" was the most important predictor among pill users in the decision to refill a prescription. Concern for "effectiveness" also outweighed that for "safety" among the 486 subjects studied between the ages of 13 and 20. Kee and Darroch (1981) used semantic differential scaling to calculate "acceptability scores" assigned by Australian college students for various contraceptive alternatives. They proposed that "comfort and mood" factors contributed to different contraceptive choices made by males and females.

A World Health Organization report (1974) indicated there to be few reliable studies examining users' and potential users' perceptions of fertility control. The study described below examined perceived attributes of ten contraception methods by never-married college students.

Methods

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A questionnaire adapted from one described by Kee and Darroch (1981) was used for this study. It contained 40 polar adjective pairs and demographic items for age, gender, ethnicity, marital status, knowledge of specific contraception options, and previous experience with contraception. A test-retest procedure carried out over a two-week period on 43 college undergraduates gave Pearson product moment correlation coefficients for 39 of the adjective pairs in the range of .76 to .92. One word pair (hot-cold) provided a coefficient of stability of .53. Overall, it was concluded that the word pairs were stable for these particular respondents.

Adjective pairs were arranged at the extremes of seven-point scales, where "1" was positive and "7" was negative. Polarity and order of word pairs were randomized. An in-depth discussion of semantic differential scaling is provided by Osgood, Suci, and Tannenbaum (1957). Contraception options examined were: condom, douche, oral contraceptive, withdrawal, diaphragm, female sterilization, spermicide, rhythm, male sterilization and IUD. Twenty-four sections of a large general education course completed the questionnaire. In all, there were 654 respondents. Incomplete questionnaires and those of married or formerly married respondents were excluded from the data analysis. In the final data analyis, 601 responses were included.

Respondents in the general education course used to draw the sample for this study were mostly underclassmen, and

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included 41% freshmen, 32% sophomores, 12% juniors, 5% seniors, and 4% "other." The respondent mean age was 19.9 years. Among respondents, 285 were females and 316 were males. The sample was 85% white, 8% black, and 7% "other." Virtually everyone in the sample had heard of all the contraception options presented, although just 87% indicated they had heard of douching as a method. The most commonly tried method was the oral contraceptive. Only two respondents indicated that they or a partner had employed sterilization as a method.

For rating analysis, scale polarities were adjusted so that the "positive" word of each pair was assigned a value of "1," and the "negative" word of each pair was assigned a value of "7." Arithmetical means of the 40 adjective pairs were calculated for each method of contraception, and overall means were computed by gender for each method. The significance of the difference between means for males and females on each of the ten methods was computed using Student's t-test. A principal components analysis with a varimax rotation was applied across all ten methods of contraception to identify dimensions of evaluation. Separate analyses were performed by gender. When the final factor structure was extracted, eigenvalues were plotted. A scree test (Cattell, 1966) indicated which factors were of primary importance.

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Results

The contraception method of highest acceptability to both sexes was the oral contraceptive (Table 1). The douche and withdrawal (coitus interruptus) were the least acceptable forms of contraception to both sexes, ranking 9th and 10th respectively. The rhythm method received a relatively high rank (2nd among males and 3rd among females) despite its reputation for having only moderate effectiveness among couples employing it. The five contraception options rated most acceptable by males (oral contraceptive, rhythm method, female sterilization, spermicidal foam, and diaphragm) were methods that required the female to take principal contraceptive responsibility. Among female respondents, male sterilization was the second most acceptable contraceptive method. The IUD ranked relatively high among females (4th) compared to its ranking among males (8th). The condom was ranked 7th by males and females alike.

The principal components analysis with varimax rotation yielded eight factors for males, including six with eigenvalues greater than unity, and ten factors for females, including five factors with eigenvalues greater than unity. An adjective pair was identified with a particular factor if its loading for that factor was .50 or greater. No adjective pair loaded on more than one factor for either sex (Table 2).

The factor structures of the first six factors underlying the perceptions of males toward contraception options

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accounted for 85.1 percent of the common variance. Factor 1 accounted for 45.4% of the total variance, and was clearly linked to "effectiveness." Factor 2, accounting for 18.4% of the overall variance, was of more complex character. It contained elements of "comfort and pleasure," but also "mood and convenience." Factor 3, contributing 8.9% of the common variance, also was multifaceted, and encompassed "acceptability," "morality," and "naturalness." Factor 4 consisted of one word pair with a loading greater than .50 (hot-cold). Though it contributed 6.4% of the total variance, the interpretation in this culture of "temperature" remains unclear. Factor 5 included aspects of "permanence" and "invisibility," suggesting the existence of an "aesthetics" attribute. It accounted for 6.0% of the common variance. Factor 6, providing 5.6% of the overall variance, was clearly associated with "safety." Given its relative position, however, "safety" was not considered to be an important evaluative dimension of contraception where males were concerned.

The factor structures of the first five factors underlying the perceptions of females toward contraception options accounted for 84.3% of the common variance. Factor 1 accounted for 50.0% of the total variance, and was linked principally with "effectiveness." The factor was inclusive of an element of "satisfaction." Factor 2, representing 14.1% of the variance, was clearly associated with "convenience."

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Factor 3 accounted for 8.3% of the overall variance, and demonstrated a concern for "safety" that was more prominent than that among males. Factor 4 contributed 6.2% of the variance, and consisted of two word pairs related to what is "natural" and "moral." Factor 5 accounted for 5.7% of the overall variance, and was related to "discretion" and "modesty."

Discussion

These data suggest that attributes assigned to contraception alternatives may influence their acceptability to a potential user. The "rhythm method" attained a relatively high index of acceptability. Initially, one might be tempted to hypothesize a religious influence. Although university students comprise a homogeneous group in many respects, the selection of a general education course to obtain respondents reduces the homogeneity problem. The university at which this work was carried out is a state institution, so a disproportionate religious influence (e.g., Roman Catholic) is unlikely. Religious affiliation was not one of the demographic variables measured in this investigation. Future studies might examine to what extent religious affiliation correlates with the evaluation of particular contraception methods.

Female respondents viewed "male sterilization" as the second most acceptable form of contraception. This measure

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may reflect a desire among females for more permanent and effective contraception, or it may refute the female's traditional role of having to assume principal contraception responsibility. The rejection of this role seems valid in light of the previous observation that male respondents' five most acceptable contraception methods focus on an action taken by the female.

Females gave a relatively high acceptability rating to the IUD, ranking it 4th overall. This ranking might be explained, in part, by the fact that the study was performed before reports by Darling, Weiss, Metch, et al. (1985) and Cramer, Schiff, Schoenbaum, et al. (1985) documented an association between past use of the IUD and primary tubal infertility and acute pelvic inflammatory disease. The fact that the respondents were never-married college students could also explain the ranking, as future infertility might be too remote an issue to be of great concern. Since the investigators cited above found that differential risks were associated with different types of IUD's, it is possible that future studies need to be more specific as to the type of IUD reference is made. As Mishell (1985) points out, the IUD can have high acceptability and desirability among women over age 30 who do not wish to have more children, who need effective contraception, and who do not want exposure to the risks of surgery or the systemic metabolic effects of the oral contraceptive.

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Condoms can be effective in pregnancy prevention as well as in combatting the spread of some sexually transmitted diseases. In this study, condoms had only the seventh highest index of acceptability among both males and females. It is possible that respondents are unaware of the effectiveness and reliability of condoms, especially if combined with spermicidal foam. The need for more and better birth control information, as Zelnik and Kantner (1978) suggest, may be evident here. Educators and family planning counselors who work with college students may need to support the effectiveness of condoms. Concurrently, educators may need to indicate that use of condoms does not necessarily decrease sexual pleasure, and can be both convenient and comfortable as an acceptable alternative to the oral contraceptive and the IUD that can have side effects detrimental to health.

It is somewhat surprising that a "cost factor" was not rated highly by respondents. Other populations should be tested similarly to clarify the possible role of cost in contraception planning. In this group of respondents, it would appear that education and counseling strategies focusing on cost are not likely to have much practical value.

Conclusions and Recommendations

The use of semantic differential scaling was successful in illuminating perceptual attributes assigned by males and females to contraception alternatives. In the present study,

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salient dimensions of contraception among males included effectiveness, comfort/pleasure/mood/convenience, acceptability/morality/naturalness, aesthetics, and safety. Among females, salient dimensions included effectiveness/satisfaction, convenience, safety, morality/naturalness, and discretion/modesty. Knowledge of a few dimensions that contribute to the evaluation of a contraception method, and perhaps, eventual choice of method, allows the educator or family planning counselor to narrow the educational focus, and provide more specific types of messages to males and females. In the future, semantic differential scaling might be used to assess the acceptability of alternative contraception methods to high fertility groups such as teenagers, urban residents, selected ethnic populations, and persons in developing countries. In addition, it may be used to identify misconceptions (i.e., incorrect attributes) about some contraception methods, and thus, form the basis for family life curriculum development in schools and other educational settings. Similar investigations in the future should also attempt to address additional contraception methods, including abstinence from sexual intercourse, vaginal suppositories, the contraceptive sponge, and various methods in combination.

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TABLE 1

Male and Female Acceptability Indices for Ten Contraception Alternatives *

	Male Index		Female Index		
	M	SD	M	SD	t value
Condoms	3.90	.95	3.79	.96	-0.50
Douche	3.95	.49	4.47	.78	3.55**
Oral Contraceptive	2.95	.93	2.88	1.10	-0.32
Withdrawal	4.79	1.20	4.71	1.22	-0.29
Diaphragm	3.71	.67	3.70	.77	0.08
Female Sterilization	3.44	1.01	3.65	1.09	0.87
Spermicide	3.67	.72	3.86	.85	1.08
Rhythm	3.41	1.06	3.49	1.22	0.30
Male Sterilization	3.76	.98	3.42	.79	-1.73**
IUD	3.93	.63	3.59	.74	-2.26**

* Indices shown are overall means and standard deviations for 40 semantic differential scales.

** $p \leq .05$

TABLE 2

Factor Loadings for Major Factors Identified by Gender

Males	Females
Factor 1 (45.4%)	Factor 1 (50.0%)
effective-ineffective (.87)	successful-unsuccessful (.84)
successful-unsuccessful (.83)	reliable-unreliable (.81)
reliable-unreliable (.81)	effective-ineffective (.80)
efficient-inefficient (.78)	efficient-inefficient (.77)
sufficient-insufficient (.68)	sufficient-insufficient (.72)
modern-old fashioned (.57)	clever-stupid (.64)
	satisfying-frustrating (.63)
Factor 2 (18.4%)	modern-old fashioned (.63)
pleasurable-unpleasurable (.72)	acceptable-unacceptable (.50)
satisfying-frustrating (.63)	good-bad (.50)
stress free-stressful (.61)	
easy-difficult (.61)	Factor 2 (14.1%)
comfortable-uncomfortable (.60)	convenient-inconvenient (.62)
happy-sad (.57)	easy-difficult (.61)
convenient-inconvenient (.53)	quick-time consuming (.61)
Factor 3 (8.9%)	Factor 3 (8.3%)
moral-immoral (.65)	healthy-unhealthy (.70)
healthy-unhealthy (.59)	harmless-harmful (.66)
acceptable-unacceptable (.58)	safe-unsafe (.53)
good-bad (.57)	
natural-unnatural (.55)	Factor 4 (6.2%)
attractive-ugly (.50)	natural-unnatural (.68)
	moral-immoral (.54)
Factor 4 (6.4%)	
hot-cold (.63)	Factor 5 (5.7%)
	invisible-visible (.82)
Factor 5 (6.0%)	discreet-obvious (.63)
invisible-visible (.58)	
permanent-temporary (.53)	
Factor 6 (5.6%)	
harmless-harmful (.76)	
safe-unsafe (.53)	

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